

### REMARKS

In response to the Office Action mailed January 13, 2009, Applicants have amended claims 1 and 4. Claims 5-6 have been canceled and no new claims have been added. It is urged that support for all the above amendments may be found throughout the specification as originally filed, for example on page 3, lines 15-22; page 9, line 30; Figure 1; and original claims 2-3 and 5-6. No new matter has been added. The above amendments are not to be construed as acquiescence with regard to the Examiner's rejections and are made without prejudice to prosecution of any subject matter removed or modified by this amendment in a related divisional, continuation or continuation-in-part application. Following the amendments, claims 1, 4, 7-11, and 16 are pending and under examination in the application.

Applicants kindly thank the Examiner for noting that claims 5, 6, 8-11, and 16 would be allowable if rewritten in independent form. Applicants, without acquiescence, have amended independent claim 1 to recite the limitation of claim 5; thus, claim 1, as well as all claims depending therefrom, are believed to be in condition for allowance. Favorable reconsideration of the subject application is respectfully requested in view of the above amendments and the following remarks.

### CLAIM REJECTIONS UNDER 35 U.S.C. § 102(e)

Claims 1-2 stand rejected under 35 U.S.C. § 102(e), as allegedly being anticipated by McGall *et al.* (U.S. Patent No. 6,858,711). Specifically, the Examiner contends that McGall *et al.* disclose a solid phase covalently linked to a tag oligonucleotide rendered partially double stranded by annealing an  $\alpha$ -tag oligonucleotide to provide a 3' overhang portion of the tag oligonucleotide. Further, the Examiner contends that said tag oligonucleotide is used as a substrate for ligase covalent bonding to a single stranded target nucleic acid such that the single stranded target is ligated to the tag oligonucleotide. Therefore, the Examiner concludes that McGall *et al.* anticipate the presently claimed invention.

Applicants traverse this basis of rejection and respectfully submit that McGall *et al.* fail to anticipate the presently claimed invention. Applicants submit that McGall *et al.* fail to disclose each and every feature of the instant claims and thus, do not anticipate the presently

claimed invention. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”

*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Nevertheless, Applicants have amended the claims as kindly suggested by the Examiner to be directed to the subject matter of objected claim 5. Accordingly, reconsideration and withdrawal of this basis for rejection is respectfully requested.

#### **CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)**

Claims 1-4 and 7 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over McGall *et al.* (U.S. Patent No. 6,858, 711) in view of Mirkin *et al.* (U.S. Patent No. 6,812,334). Specifically, the Examiner contends that McGall *et al.*, combined with Mirken teach a solid phase (nanoparticles) comprising a surface first chemical moiety which participated in covalent bond with a second chemical moiety conjugated to a tag oligonucleotide to provide a 3' overhang portion. The Examiner concludes that it would have been obvious at the time the invention was made to use the microsphere solid phase of Mirkin *et al.* for the solid phase of McGall *et al.* and arrive at the presently claimed invention. The Examiner further contends that the skilled artisan would be motivated to make the substitution because the microsphere solid phase was well known in the art.

Applicants traverse this basis of rejection and respectfully submit that the Action fails to provide a sufficient basis for one having ordinary skill in the art to predictably arrive at the presently claimed invention with any reasonable expectation of success, and thus, the Action fails to establish a *prima facie* case of obviousness against the presently claimed invention. Moreover, the Action fails to establish a *prima facie* case of obviousness against the presently claimed invention because the references do not teach or suggest each and every element of the claims. “To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Nevertheless, solely to expedite prosecution Applicants, without acquiescence, have amended claim 1 to recite the limitation of former claim 5, which the Examiner has indicated

would be allowable if rewritten in independent form. Thus, claim 1 and all claims depending therefrom are now believed to be allowable.

At a minimum, it must be demonstrated that the cited references provide a sufficient basis to predictably arrive at the presently claimed invention, and even assuming, *arguendo*, that the cited references teach each claim feature, the Examiner must provide an explicit, apparent reason to combine these features in the fashion claimed by the Applicant with a reasonable expectation of success. See *KSR v. Teleflex, Inc.*, No. 04-1350 at 4, 14 (U.S. Apr. 30, 2007) (“A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art”).

In the instant case, the Examiner has not provided any rationale to support the skilled artisan’s inclusion of a microsphere comprising a surface first chemical moiety which participates in covalent carboxyl bond formation with a second chemical moiety conjugated to a tag oligonucleotide, as presently claimed. Thus, the skilled artisan would not have a reasonable expectation of success in arriving at the presently claimed invention. Accordingly, this Action fails to support a *prima facie* case of obviousness against the presently claimed invention. Reconsideration and withdrawal of this basis for rejection is respectfully requested.

#### **CLAIM OBJECTIONS**

Claims 5, 6, 8-11, and 16 are objected to as being dependent upon a rejected base claim, but would otherwise be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Applicants kindly thank the Examiner for noting the allowability of claims 5, 6, 8-11, and 16. Applicants respectfully submit that the limitations of claim 5 have been incorporated into independent claim 1; thus, claim 1 and all claims depending therefrom are now believed to be allowable.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Application No. 10/517,003  
Reply to Office Action dated January 13, 2009

All of the claims remaining in the application are now believed to be allowable.  
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,  
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